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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

May 17, 1996

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, NW
Washington, DC 20554

RE: ET Docket No. 95-18

Dear Mr. Caton:

Transmitted herewith on behalf of Iridium, Inc., are an original and four (4) copies of its "Supplemental Reply Comments" in the above-referenced proceeding.

Should any question arise concerning this matter, please communicate with this office.

Very truly yours,
IRIDIUM, INC.

Patricia A. Mahoney
Senior Manager, Licensing Affairs

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ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of:	)	
Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service	)	ET Docket No. 95-18

SUPPLEMENTAL REPLY COMMENTS OF IRIDIUM, INC.

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Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service	)	ET Docket No. 95-18

Directed to: The Commission

SUPPLEMENTAL REPLY COMMENTS

Iridium, Inc. ("Iridium"), hereby respectfully submits these supplemental reply comments in response[1] to the "Supplemental Comments of COMSAT Corporation" ("Supplemental Comments"), filed on March 14, 1996, in the above-captioned proceeding:

In its Notice of Proposed Rule Making in this proceeding, Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile Satellite Service, 10 FCC Rcd 3230, 3231 (1995)("NPRM"), the Commission stated that it continued to believe "that a need exists for allocating a substantial amount of spectrum for MSS" and proposed an allocation of 70 MHz of spectrum to the mobile satellite service ("MSS") in the 2 GHz band to meet that need:

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[1]Iridium's Supplemental Reply Comments are being filed in response to the Public Notice released on April 17, 1996, "FCC Seeks Comments in the Proceeding to Allocate 70 Megahertz of Spectrum to the Mobile-Satellite Service," Public Notice, DA 96-577, April 17, 1996.

> There is significant consumer demand for convenient mobile services such as telephone, high-rate data and fax, and video. MSS can provide such communications in remote or rural areas not covered by terrestrially based mobile services, and can provide nationwide public safety coverage....Further, we believe that use of 2 GHz frequencies can help minimize transmission costs and ensure a relatively low cost service that will be within the economic reach of a large segment of the population. Thus, the proposed allocation of 70 MHz of spectrum to MSS should give the public, especially rural Americans, **access to new and competitive services and technologies**.

Id. (emphasis added). In addition to recognizing the need for more spectrum for MSS, the Commission also recognized that there were already potential applicants interested in providing such service.[2] Indeed, in initiating this proceeding, the Commission was responding to three petitions for rulemaking; and, in its NPRM, the Commission recognized expressions of interest by potential applicants for MSS in the 2 GHz band filed by four interested parties (including Iridium) in the rulemaking proceeding concerning preparation for the 1995 World Radiocommunications Conference ("WRC").

Iridium fears that, if the Commission were to adopt the phased transition plan proposed by COMSAT in its Supplemental Comments, the Commission's expressed objective of giving the public "access to new and competitive services and technologies" will never be realized. Rather than making available substantial spectrum for several competing MSS services, the Commission would, if it were to adopt COMSAT's plan, be severely limiting its ability to allocate usable spectrum to more than one applicant.

Iridium recognizes that the issue of trying to make new spectrum available to MSS while at the same time trying to accommodate the incumbent Fixed Service ("FS")

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[2]Iridium has actively participated in this proceeding as a potential applicant to provide MSS services in the 2 GHz band.

and the Broadcast Auxiliary users in the 2 GHz frequency bands is a difficult one. Incumbent users rightly do not want their operations to be unduly disrupted. At the same time, there is insufficient MSS spectrum available to potential applicants that propose to deploy NGSO MSS systems to provide personal communications on a global basis. Nevertheless, Iridium does not see how COMSAT's proposal for a "phased transition plan" resolves this issue. While COMSAT's proposal may accommodate COMSAT's MSS spectrum plans, the proposal essentially ignores the spectrum needs of other potential MSS systems.

I. COMSAT's De Facto Two Phase Allocation Plan for the 2 GHz Uplink Bands Is Inconsistent with Global Allocation Efforts

Initially, it should be noted that COMSAT contends that its current proposal is distinct from its earlier proposals to have two separate allocations of "core" and then "extension" bands at 2 GHz. However, COMSAT's latest proposal would effectively accomplish the same result. In its Supplemental Comments, COMSAT proposes that Broadcast Auxiliary Services ("BAS") clear the 1990-2008 MHz band by the year 2000. COMSAT proposes a different course of action for the 2008-2025 MHz band, with BAS as a secondary user in the years 2000-2005 and ceasing operations in the band after 2005. COMSAT is thus making a de facto two-step allocation proposal.

Iridium recognizes the difficulties of operating in the same frequency band with the BAS. Even so, Iridium is concerned about the effect that COMSAT's proposed phased allocation process will have on the worldwide usage of this band, given the differences between the 2 GHz MSS allocations in Region 2 and the other ITU regions.

The 2 GHz MSS allocation for the U.S. and other Region 2 countries is 1990-

2025 MHz and 2165-2200 MHz. In Regions 1 and 3, the MSS allocation is 1980-2010 MHz and 2170-2200 MHz, unchanged from WARC-92. These differing allocations result in different band pairing arrangements, thereby making it extremely difficult to use 2 GHz allocations efficiently for global MSS systems. Indeed, this is the reason the Commission has strongly endorsed global harmonization of these 2 GHz allocations.

COMSAT's proposal fails to consider what downlink will be paired with the 1990-2008 MHz uplink band, should it be cleared by the year 2000. In Region 2, this uplink band would have a different paired downlink than in Regions 1 and 3. In Region 2, the natural paired downlink would be 2165-2183 MHz, while in Regions 1 and 3, the downlink would be 2180-2198 MHz. COMSAT's proposal does not include a coherent or pragmatic allocation plan for the MSS downlink band.

The best that can be said for COMSAT's phased transition plan is that it would allow one MSS applicant relatively easy use of the band. However, COMSAT's plan would make it very difficult to implement other global MSS systems in this 2 GHz band. The first system would most likely seek the 1990-2008 MHz uplink band, as this MSS allocation is common to all ITU-R regions. That system could then pair this uplink with any downlink band it desires in the 2165-2200 MHz band without regard to its impact on worldwide usage of the band.

If the first system in the band used the 2180-2198 MHz downlink band with the 1990-2008 MHz uplink band, a difficult spectrum management situation would be created. In Region 2, the 2180-2198 MHz downlink band should be paired with the 2005-2023 MHz uplink band, and not with the 1990-2008 MHz band. Similarly, in Region 2 the 1990-2008 MHz uplink band should be paired with the 2165-2183 MHz

downlink band, and not the 2180-2198 MHz band. Thus, early phased allocation of segments of the 2 GHz MSS bands, before global harmonization of these MSS allocations, would inevitably lead to spectrum management incompatibilities.

There is an insufficient amount of MSS spectrum allocated below 3 GHz to meet current demand by potential operators of NGSO systems. If the 2 GHz MSS band were to be allocated in the U.S. in such a way as to benefit one potential system without regard for the ability of other global MSS systems to use this band in an efficient manner, much of any potential global MSS allocation could be wasted. Under COMSAT's proposal, it will be possible for one global MSS system to gain access to global MSS spectrum; but, in so doing, it would fragment the remaining spectrum in such a way as to render it useless for other MSS applicants. This aspect of COMSAT's proposal is clearly inconsistent with the U.S. public interest.

II. Comsat's "Picket Fence" Approach to Allocating the 2 GHz Downlinks Is an Unmanageable Spectrum Allocation Method

Consistent with its position in ITU fora, COMSAT is advocating a "picket fence" approach to sharing downlink bands with incumbent FS users. This method of allocating spectrum becomes unmanageable with more than one MSS system and may lead to excessive subscriber handset costs (contrary to the Commission's interest in ensuring "a relatively low cost service").

The "picket fence" approach involves an MSS system operating in the gaps in the FS channeling plans. In order for the first MSS system in operation to have a sufficient amount of bandwidth under this scheme, it must operate in the gaps across most of the 2 GHz MSS allocation. As incumbent FS users vacate the band,

subsequent MSS systems would be required to adopt a similar, or even more complicated, technique in order to operate around the remaining FS users and the omnipresent first MSS system. This would quickly degenerate into an untenable spectrum management situation for both the MSS system operators and the national spectrum managers. In addition, such a scheme would inevitably result in more costly subscriber handsets, which would have to be capable of adapting to such an environment.

It should also be noted that the 2 GHz MSS bands are also identified for use by the satellite component of the Future Public Land Mobile Telecommunications Service (FPLMTS). Given the recent developments in ITU- R TG 8/1, which is tasked with developing the technical standards for FPLMTS, it is now very likely that FPLMTS will not be deployed until after the year 2000. Inefficient spectrum usage in this band will preclude the availability of spectrum for the satellite component of FPLMTS.

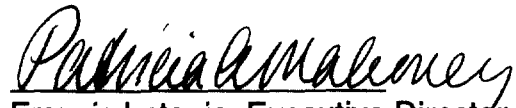
III. The Commission Should Carefully Consider the Impact of Any Allocation Decision on WRC-97

As discussed above, COMSAT's proposal would exacerbate the already untenable situation with the differing MSS allocations in the 2 GHz band in the three ITU regions. Given the scarcity of MSS allocations below 3 GHz, it should be a priority of the Commission to try and resolve these regional differences before making a domestic allocation. Moreover, the Commission should not allocate the 2 GHz MSS bands without first carefully considering the global ramifications of such an action. There is an opportunity to try to "harmonize" the 2 GHz MSS bands at WRC-97. The WRC-97 preparations undertaken both by the U.S. government and private industry

should strive to develop a plan to reconcile the differences in the 2 GHz MSS allocations. Such a reconciliation would ensure the largest amount of spectrum available on a worldwide basis.

Respectfully submitted,

IRIDIUM, INC.



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May 17, 1996

ENGINEERING CERTIFICATE

I hereby certify that I am the technically qualified person responsible for preparation of the engineering information contained in the foregoing "Response to Comsat's Supplemental Comments" in the Commission's proceeding to Amend Section 2.106 of it's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service. I am familiar with the Commission's Rules concerning Part 25. I have prepared or reviewed the engineering information contained in these pleadings and the statements of fact made therein are true and correct to the best of my personal knowledge.

Dated this 14th of May, 1996

By: Christine DiLapi

Christine DiLapi
Senior Electrical Engineer
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Motorola Satellite Communications

CERTIFICATE OF SERVICE

I, Wilma O. Smith, do hereby certify that a copy of the foregoing **Supplemental Reply Comments Of Iridium, Inc.** has been sent, via first class mail, postage prepaid, (or as otherwise indicated) on this 17th day of May, 1996 to the following:

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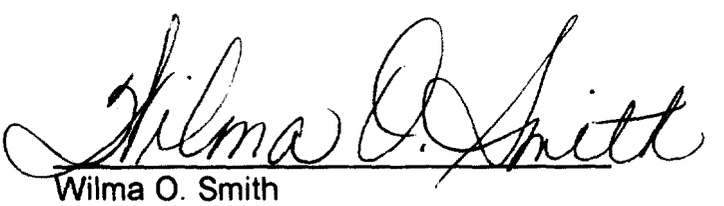

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